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B. Sharts	(BSHARTS)
M. Somerville	(MSOMERVILLE)
L. Stuart	(LSTUART)
R. Tomlinson	(RTOMLINSON)
B. Vallette	(BVALLETTE)

TO: Distribution

June 2, 1989

FROM: Daesoo Han

SUBJECT: MODIS Data Study Team Minutes for May 19

ATTENDEES:	Mike Andrews	GSC	953-2700
	Hyo-Duck Chang	STX	794-5000
	Dave Folta	GSC	953-2700
	Daesoo Han	636	286-9414
	Doug Hoyt	RDS	982-3732
	Temp Johnson	STX	286-9430
	Lee Kyle	636	286-9415
	Dan MacMillan	II	790-8500
	Al McKay	RDS	982-3720
	Jim Ormsby	624	286-6811
	Vince Salomonson	620	286-6481
	Robin Tomlinson	RDS	982-3738

NEXT MEETING: The next meeting of the MODIS Data Study Team will be held at 9:00 AM, Friday, May 26, in Building 28, Room W125.

#### TOPICS:

1. A summary of data products proposed by MODIS Science Team Members was presented. For each team member, a list was prepared showing MODIS data required to produce proposed data products, data from other sources that is also required to produce proposed products, a list of the individual products proposed for production by the science team member, and a summary of the

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algorithms to be used. The information in the document was obtained from team member proposals, but in many cases the information provided in the proposals is incomplete. The descriptive information provided for processing algorithms was often particularly sketchy.

Following the breakout of information by individual investigator, a composite listing showing all data products was presented. Products were classified by associated scientific discipline, i.e. either atmospheric, oceanic, or land science. The list contains all products originally proposed by the team members plus several additional products proposed by some team members that it will probably be necessary to produce. The list also contains some data products required by team members that have not been proposed for production by any of the MODIS Science Team Members.

2. A preliminary assessment of the effect of atmospheric refraction on earth location determinations for MODIS was presented. The predicted effect is about 0.025 degrees at a scan angle of 55 degrees. Although this seems small, a portion of the earth viewed at this angle will appear to be about 4 kilometers further from nadir than it would if no atmosphere existed. The refraction effect depends on atmospheric temperature and pressure so that latitudinal and seasonal variations will occur. A variation in surface temperature from -10 to +30 degrees Celsius causes a shift in apparent position of as much as 0.7 km. at a 55 degree scan angle. At scan angles above 45 degrees, measurements of surface temperature may be required as input to refraction corrections. Tables of shift in apparent position were presented as a function of surface atmospheric temperature and pressure and scan angle. Apparent shift values range as high as 4.5 km. for temperature at -10 degrees Celsius, pressure at 770 mm of Hg, and a 55 degree scan angle.

3. For information, a letter by Dr. Jan-Peter Muller discussing global topographic databases was reproduced and distributed in the weekly handout. Dr. Muller reviews existing data sets and suggests that if global Digital Elevation Model (DEM) data is needed before the launch of NPOP-1, a reconfigurable array of transputers that is being developed in the UK could process SPOT data to obtain the required topographic data.

4. The comments of Dr. Christopher Justice on "Core MODIS Data Products" were received, incorporated into a revised version of that document, and presented for discussion. Dr. Justice remarks that MODIS products will be needed at several spatial resolutions. MODIS products may be generated at existing data set resolutions to retain compatibility with existing data, or new grid definitions may be desirable. Cloud identification is part of cloud/atmosphere processing; flagging for cloud cover would not occur in the very early steps of MODIS data processing. "Atmospheric correction over land is critical". Atmospheric

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correction of data in all regions of the spectrum would require major research. "We need to move away from a scene-oriented processing system to a global mapping system. A wide range of map projection options should be available for all products with topographic, political, and physiographic ancillary data". He also provided a number of useful comments relating to the generation of specific data products.

5. A review of EosDIS and MODIS Level I and II requirements was completed and items affecting MODIS Level-1 processing were summarized in a Level-1 requirements review document. The first section of the document reviews those requirements universally endorsed in the EosDIS and MODIS requirements statements. The second section reviews requirements perhaps needing amplification or otherwise presenting problems in interpretation or implementation. All the problem items that were identified appear to be minor issues that will not seriously affect data system design.

#### ACTION ITEMS:

5/19-1 (McKay) Review data system interfaces that affect MODIS Level-1 processing and define the number and types of Interface Control Documents needed to provide configuration control for Level-1 processing.

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